

ShinMaywa

Submersible Aerator

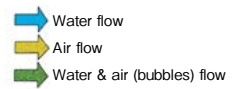
SJ·SJL/SU series



Submersible Aerator

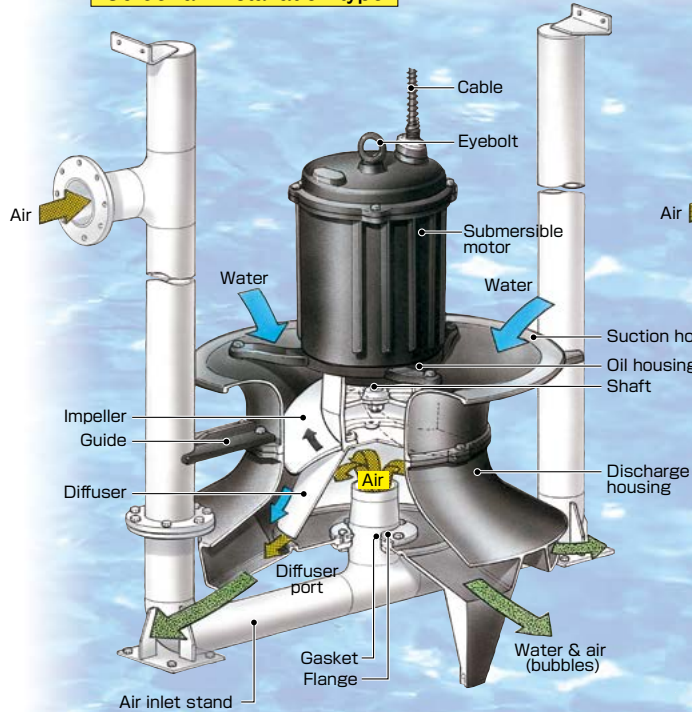
SJ•SJL Series

Downward discharge type

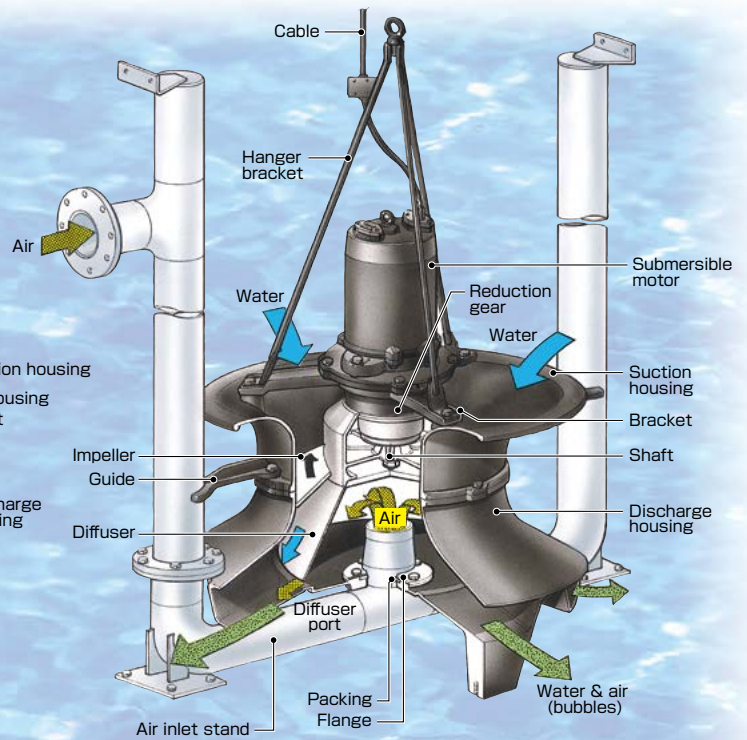


The SJ & SJL series offer a powerful downward water flow to ensure efficient mixing and a high level of oxygen transfer. The compact, lightweight body allows for easy installation and maintenance.

Guide rail installation type



SJ Series



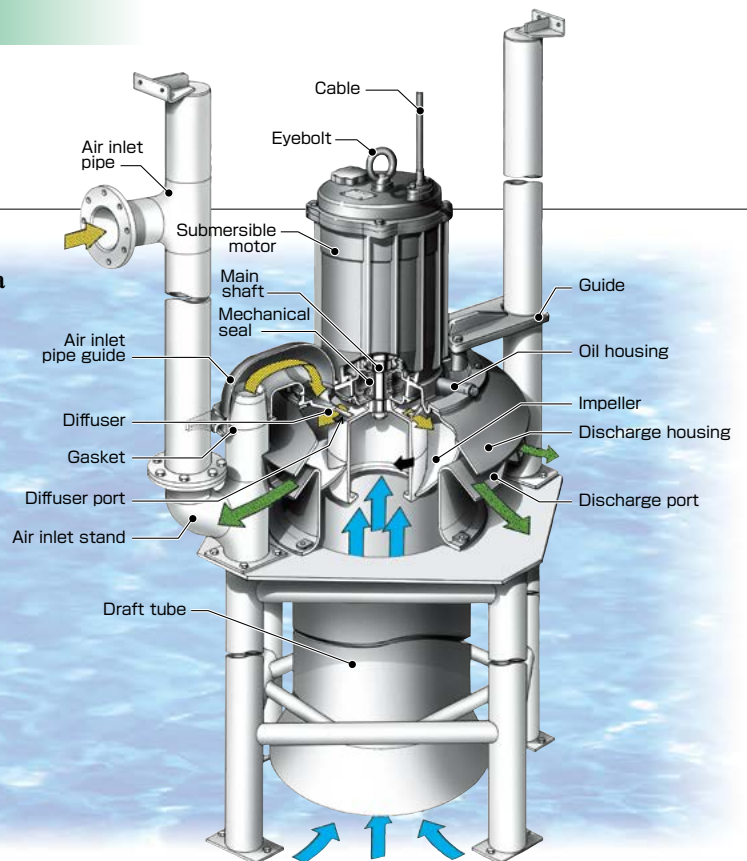
SJL Series

Submersible Aerator

SU Series

Upward discharge type
Multi-pole motor direct drive

The SU series has a compact, lightweight body with a powerful upward flow. It is ideal for aeration and mixing in a deep tank and for creating an efficient, uniform flow.



Applications

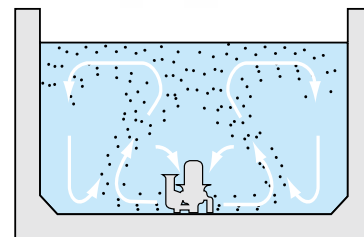
- Sewage treatment: Aeration and mixing
- Agricultural wastewater treatment: Aeration and mixing
- Industrial wastewater treatment: Aeration and mixing
- Anoxic tank, anaerobic tank: Mixing
- Equalization tank: Aeration and mixing

Features

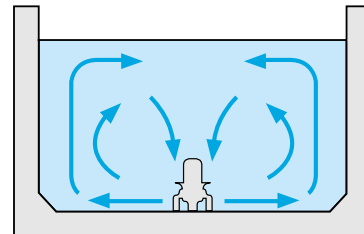
- The multi-pole motor direct drive design of the SJ series is compact and lightweight. No oil replacement is needed because no reduction gear is used.
The SJ series is a solution offering high cost-performance and reduced maintenance.
- The newly-developed axial-flow impeller and downward discharge housing ensure high mixing flow velocity over the tank bottom as well as wide, uniform convection.
- The bubble miniaturization effect offers a high oxygen transfer rate with lower energy consumption.
- By simply changing the cable, SJ can operate in water temperatures of 0-60°C.
- The clogging prevention design and high-quality double mechanical seal with 4-face SiC ensure durability in long-term continuous operation under water.
- The motor can be removed from the housing by simply unfastening the bolts, which provides ample maintenance accessibility.
- A lightweight, tough cable with special reinforcement is employed.
- Switching between anaerobic and aerobic settings is easy. Good for high-level applications in various facilities.

Flow patterns in tank

● Aeration flow



● Mixing flow

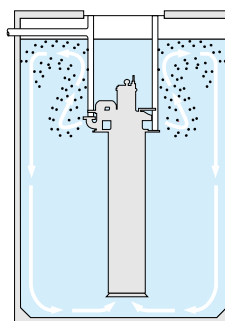


Features

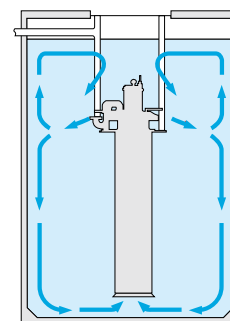
- The multi-pole motor direct drive design is compact and lightweight and also offers high cost-efficiency and reduced maintenance.
- The upward discharge design provides efficient aeration and mixing even in a deep tank.
- The newly-developed axial-flow impeller and discharge housing ensure highly efficient oxygen transfer.
- By simply changing the cable, SU can operate in water temperatures of 0-60°C.
- The clogging prevention design and high-quality double mechanical seal with 4-face SiC ensure durability in long-term continuous operation under water.
- A lightweight, tough cable with special reinforcement is employed.
- Switching between anaerobic and aerobic settings is easy.
- Good for high-level applications in various facilities
- 1.5kW small model (SU15) is available.
Good for use in small-scale treatment facilities.

Flow patterns in tank

● Aeration flow



● Mixing flow



Main Specifications

		SJ	SJL	SU
Handling liquid	Kind of liquid	Wastewater (including sewage, night soil, industrial wastewater and sludge)		
	Temperature	0-40°C		
Material	Cable	EPR insulated PCP sheathed cable with fabric reinforcement		
	Main shaft	329J1 stainless steel		
	Impeller	304 stainless steel casting		
	Suction/Discharge housing	Gray iron casting (FC250)		
Motor	Type	Air-filled submersible induction motor	Air-filled submersible induction motor with reduction gear	Air-filled submersible induction motor
	Insulation class	E		
	Phase	3		
	Number of poles	50Hz:10, 60Hz:12	4	50Hz:10, 60Hz:12
	Starting method	Direct on line	2.2-7.5kW: Direct on line 11-30kW: Star-delta	1.5-7.5kW: Direct on line 11, 15kW: Star-delta
	Motor protector	Thermal switches embedded to motor winding		

Optional Specifications

	SJ	SJL	SU
Cable extension	15·20·30m *Please contact us regarding cable lengths over 30m		
Protector	Leakage detector		

*For special specifications other than those given above, please contact us.

Standard Accessories

- Cable (10m) 1 pc.
- Cable hanger 1 pc.
- Installation kit 1 set
(Guide rail installation type: Air inlet stand
Free-standing type: Air inlet pipe, Suction stand)

Optional Accessories

- Lifting chain
- Special tools
- Anchor bolts
- Guide pipe with air inlet function

Cable Specifications

Model	Type	Area (mm ²)	Cores	Applications	Outer dia. (mm)
SJ8 SJ15 SJ22	2 PNCTS	2 (2)	4 (2)	Power Thermal switch (Leakage detector)	φ 16 (φ 18)
SJ37		3.5 (2)	4 (2)	Power Thermal switch (Leakage detector)	φ 18 (φ 20)
SJ55		5.5 (2)	4 (2)	Power Thermal switch (Leakage detector)	φ 20 (φ 22)
SJ75		8 (2)	4 (2)	Power Thermal switch (Leakage detector)	φ 22 (φ 24.5)
SJL22 SJL37	2 PNCTS	2 (2)	4 (2)	Power Thermal switch (Leakage detector)	φ 16 (φ 18)
SJL55		3.5 (2)	4 (2)	Power Thermal switch (Leakage detector)	φ 18 (φ 20)
SJL75		5.5 (2)	4 (2)	Power Thermal switch (Leakage detector)	φ 20 (φ 22)
SJL110		5.5 (2)	7 (2)	Power Thermal switch (Leakage detector)	φ 28
SJL150		14 (2)	7 (2)	Power Thermal switch (Leakage detector)	φ 33
SJL220		22 (2)	7 (2)	Power Thermal switch (Leakage detector)	φ 40
SJL300		30 (2)	7 (2)	Power Thermal switch (Leakage detector)	φ 45

Model	Type	Area (mm ²)	Cores	Applications	Outer dia. (mm)
SU15 SU22	2 PNCTS	2 (2)	4 (2)	Power Thermal switch (Leakage detector)	φ 16 (φ 18)
SU37		3.5 (2)	4 (2)	Power Thermal switch (Leakage detector)	φ 18 (φ 20)
SU55		5.5 (2)	4 (2)	Power Thermal switch (Leakage detector)	φ 20 (φ 22)
SU75		8 (2)	4 (2)	Power Thermal switch (Leakage detector)	φ 22 (φ 24.5)
SU110		8 (2)	7 (2)	Power Thermal switch (Leakage detector)	φ 30
SU150		14 (2)	7 (2)	Power Thermal switch (Leakage detector)	φ 33

The values in parenthesis () indicate the values for special specifications (with a leakage detector).
2PNCTS: EPR insulated PCP sheathed cable with fabric reinforcement.

Aeration and Mixing Performance

Model	Rated output	Discharge water volume	Air flow range	Reference performance		Necessary blowing pressure at air inlet connection port	Applicable tank size			Machine weight	Weight of air inlet stand
				Air flow	Oxygen transfer rate		Max. volume	Max. surface area	Max. length of rectangle		
	kW	m³/min	m³/min (Normal)	m³/min (Normal)	kgO₂/h	kPa {mmAq}	m³	m²	m	kg	kg
SJ8	0.75	7	0.4~ 1.6	1.0	3.3	Submergence depth+1.0 {+100}	130	24	6.7	140	13
SJ15	1.5	9	0.6~ 3.0	1.6	6.0	Submergence depth+2.0 {+200}	280	52	8.1	190	18
SJ22	2.2	11	0.9~ 4.1	2.4	9.0	Submergence depth+2.5 {+250}	460	85	9.5	220	18
SJ37	3.7	17	1.1~ 6.8	3.8	14.4	Submergence depth+3.5 {+350}	670	124	12.8	250	22
SJ55	5.5	28	1.6~ 9.7	5.6	21.4	Submergence depth+2.5 {+250}	1,000	185	14.3	330	32
SJ75	7.5	39	3.2~12.9	7.5	28.9	Submergence depth+3.0 {+300}	1,400	260	17.5	560	52
SJL22	2.2	13	0.9~ 4.1	2.4	8.2	Submergence depth+1.5 {+150}	460	85	9.5	250	18
SJL37	3.7	21	1.1~ 6.8	3.8	13.8	Submergence depth+2.0 {+200}	670	124	12.8	330	23
SJL55	5.5	34	1.6~ 9.7	5.6	20.0	Submergence depth+2.0 {+200}	1,000	185	14.3	640	33
SJL75	7.5	47	3.2~12.9	7.5	27.5	Submergence depth+2.5 {+250}	1,400	260	17.5	900	53
SJL110	11	70	4.3~19.3	11.8	42.5	Submergence depth+1.5 {+150}	2,000	370	21.2	1,250	80
SJL150	15	95	6.4~25.8	16.1	58.1	Submergence depth+1.5 {+150}	2,700	500	24.6	1,550	84
SJL220	22	140	8.6~40.8	24.7	85.0	Submergence depth+1.0 {+100}	4,000	740	30.0	3,100	146
SJL300	30	190	12.9~53.7	33.3	112.0	Submergence depth+0.5 {+50}	5,500	1,020	35.0	4,200	206
SU15	1.5	9	0.6~ 3.2	1.6	6.0	Submergence depth+3.0 {+300}	250	46	7.5	175	12
SU22	2.2	11	0.4~ 4.6	2.4	9.2	Submergence depth+4.0 {+400}	350	65	8.8	195	12
SU37	3.7	17	1.1~ 7.5	4.3	15.7	Submergence depth+5.0 {+500}	600	110	11.5	230	15
SU55	5.5	28	1.6~10.7	6.4	23.6	Submergence depth+5.0 {+500}	900	165	13.9	320	20
SU75	7.5	39	3.2~14.5	8.6	31.6	Submergence depth+6.0 {+600}	1,250	230	16.5	360	32
SU110	11	55	5.4~21.5	11.8	45.0	Submergence depth+5.0 {+500}	1,800	330	20.0	700	52
SU150	15	75	6.4~25.8	16.1	62.5	Submergence depth+7.5 {+750}	2,400	440	23.0	1,000	55

Note: The performance values are achievable in clear water at 20°C with a dissolved oxygen concentration of 01.0 mg/L, with a variation of ± 10% depending on the measurement conditions. These values should be adjusted depending on the type, temperature and dissolved oxygen concentration of the water in the aeration tank. The values for the adaptive tank are applicable when the sludge concentration is 5,000mg/L.

The air flow rate corresponds to standard conditions.

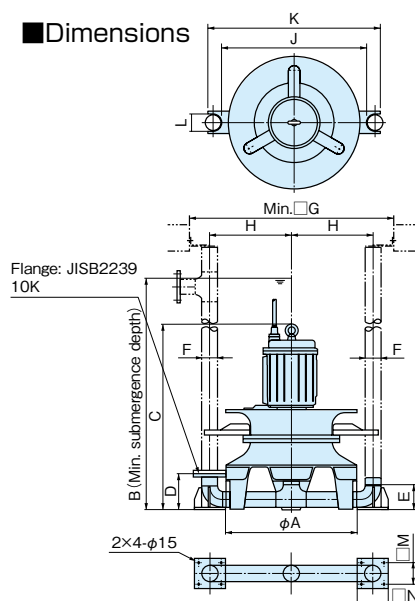
(Standard conditions: Temperature 20°C, atmospheric pressure [absolute pressure of 101.3 kPa], relative humidity 65%)

The values in parenthesis { } are given for reference.

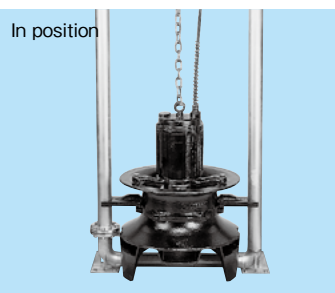
SJ-P

Guide rail installation type

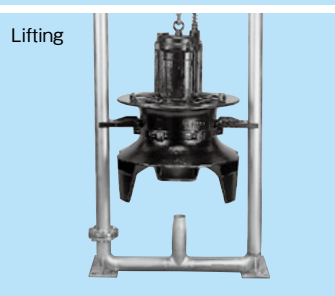
■Dimensions



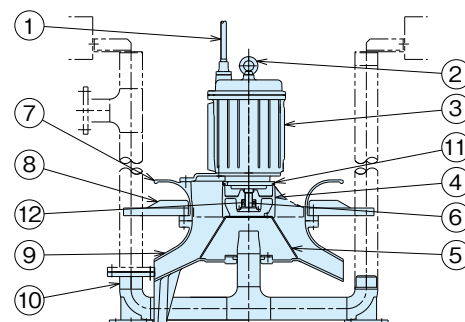
In position



Lifting



■Sectional view



●Material list

No.	Part name	Material
1	Cable	EPR insulated PCP sheathed cable with fabric reinforcement
2	Eyebolt	304 stainless steel
3	Motor	—
4	Impeller	304 stainless steel
5	Diffuser	304 stainless steel
6	Shaft	329J1 stainless steel
7	Suction housing	Gray iron casting (FC250)
8	Guide	Gray iron casting (FC200)
9	Discharge housing	Gray iron casting (FC250)
10	Air inlet stand	304 stainless steel
11	Shield ring	Acrylonitrile butadiene rubber (NBR)
12	Locking element	—

Unit: mm

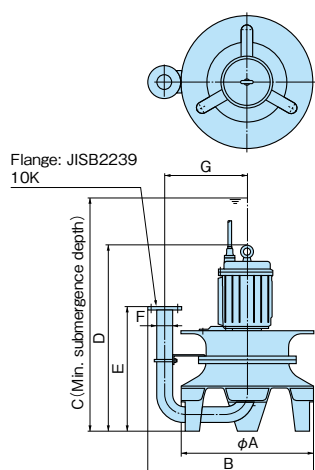
●Dimension table (SJ-P Series)

Model	Rated output (kW)	A	B	C	D	E	F	G	H	J	K	L	M	N
SJ8-P	0.75	510	1,100	810	150	100	50A	850	340	609	738	71	100	150
SJ15-P	1.5	600	1,300	894	200	120	65A	1,006	410	732	877	87	110	160
SJ22-P	2.2	670	1,500	934	200	120	65A	1,050	432	777	922	87	110	160
SJ37-P	3.7	740	1,700	1,052	200	140	80A	1,150	460	820	978	100	120	170
SJ55-P	5.5	890	1,900	1,102	250	180	100A	1,350	560	994	1,148	126	150	200
SJ75-P	7.5	1,080	2,100	1,294	300	220	125A	1,600	660	1,162	1,350	158	200	250

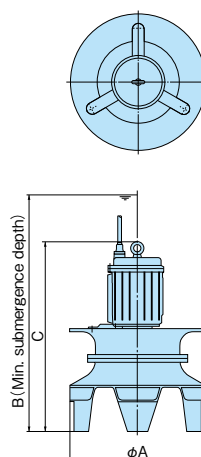
SJ-F

Free standing type

■Dimensions



■Dimensions



●Dimension table (SJ-F Series)

Unit: mm

Model	Rated output (kW)	A	B	C	D	E	F	G
SJ8-F	0.75	510	633	1,100	810	550	50A	300
SJ15-F	1.5	600	808	1,300	894	646	65A	420
SJ22-F	2.2	670	843	1,500	934	650	65A	420
SJ37-F	3.7	740	903	1,700	1,052	700	80A	440
SJ55-F	5.5	890	1,070	1,900	1,102	800	100A	520
SJ75-F	7.5	1,080	1,305	2,100	1,294	900	125A	640

Note: The aerator must be fixed using guide pipes, anchor weight, anchor ropes etc., so that it does not move after installation even on an inclined or slippery surface.

SJ-K

Mixing type

●Dimension table (SJ-K Series)

Unit: mm

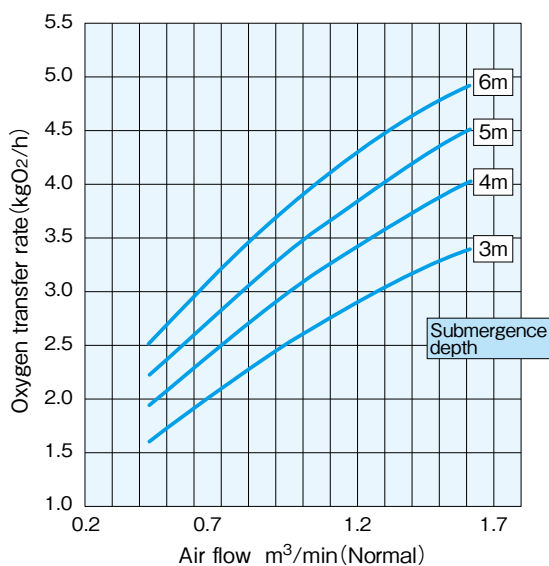
Model	Rated output (kW)	A	B	C
SJ8-K	0.75	510	1,100	810
SJ15-K	1.5	600	1,300	894
SJ22-K	2.2	670	1,500	934
SJ37-K	3.7	740	1,700	1,052
SJ55-K	5.5	890	1,900	1,102
SJ75-K	7.5	1,080	2,100	1,294

Note: The aerator must be fixed using guide pipes, anchor weight, anchor ropes etc., so that it does not move after installation even on an inclined or slippery surface.

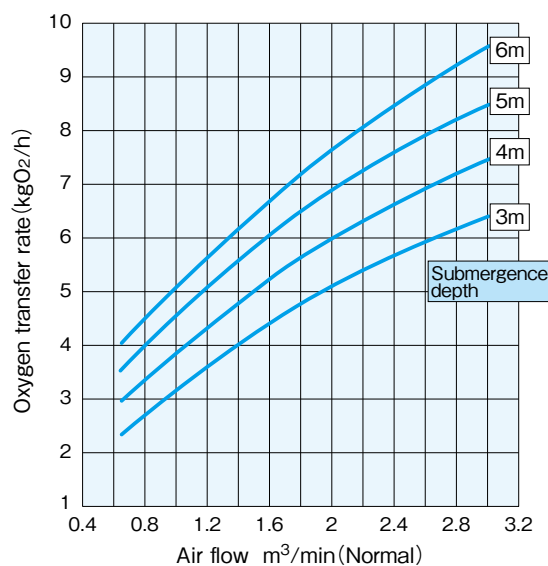
Performance Curves

(Condition: Clear water at 20°C with a dissolved oxygen concentration of 0 mg/L)

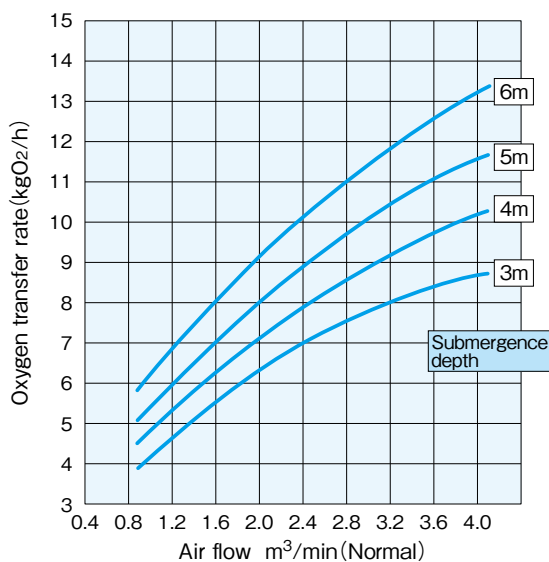
SJ8



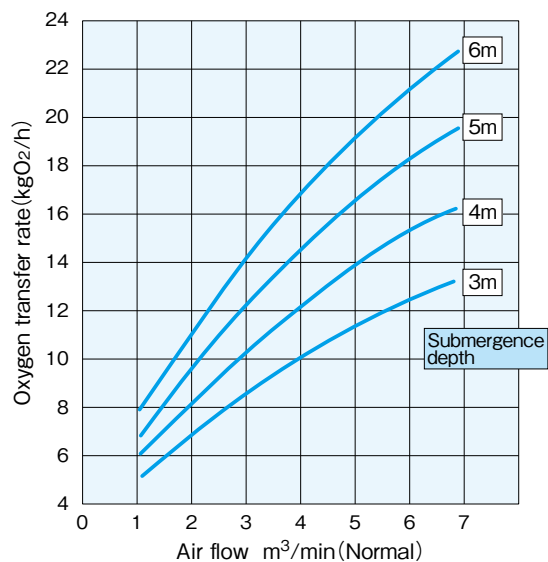
SJ15



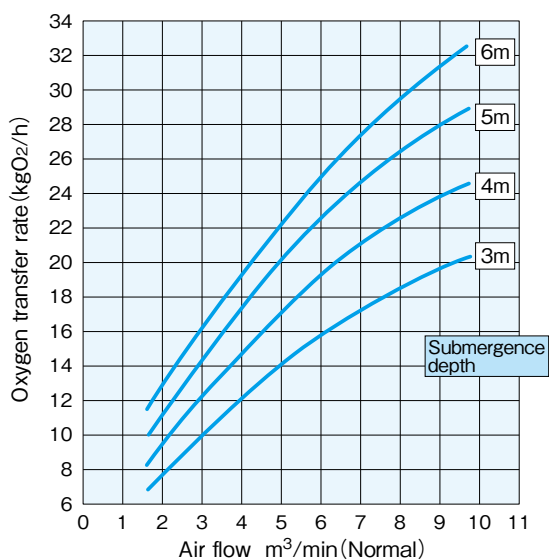
SJ22



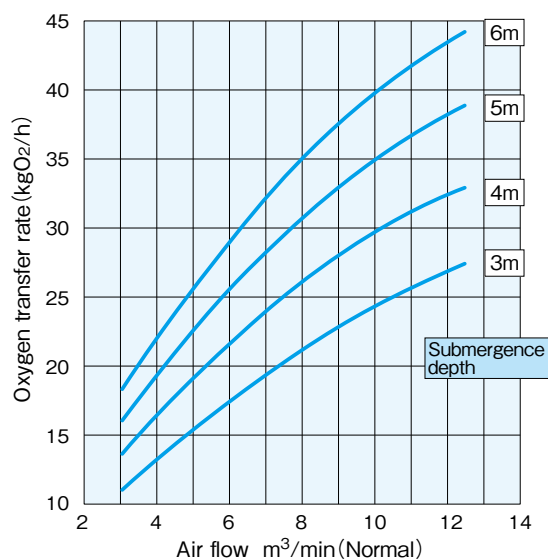
SJ37



SJ55



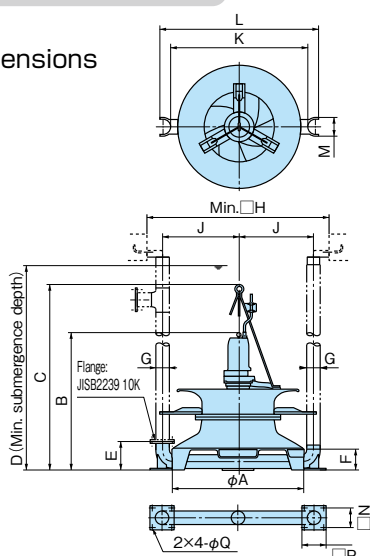
SJ75



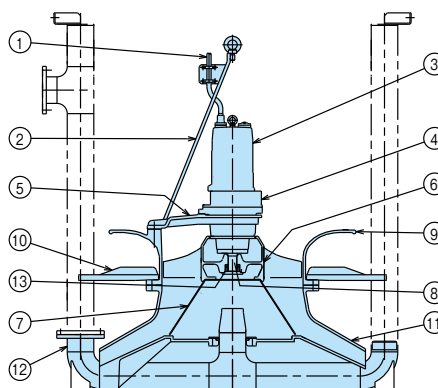
SJL-P

Guide rail installation type

■Dimensions



■Sectional view



●Material list

No.	Part name	Material
1	Cable	EPR insulated PCP sheathed cable with fabric reinforcement
2	Hanger bracket	304 stainless steel
3	Motor	—
4	Reduction gears	—
5	Bracket	Gray iron casting (FC200)
6	Impeller	304 stainless steel
7	Diffuser	304 stainless steel
8	Shaft	420J1 stainless steel
9	Suction housing	Gray iron casting (FC250)
10	Guide	Gray iron casting (FC200)
11	Discharge housing	Gray iron casting (FC250)
12	Air inlet stand	304 stainless steel
13	Locking element	—

●Dimension table (SJL-P Series)

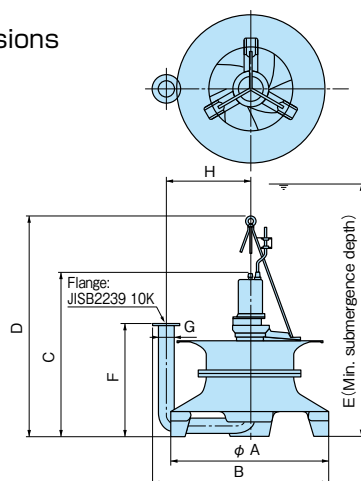
Unit: mm

Model	Rated output (kW)	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q
SJL22-P	2.2	740	983	1,383	1,500	200	120	65A	1,086	450	814	915	86	110	160	15
SJL37-P	3.7	900	1,055	1,414	1,700	200	140	80A	1,290	530	960	1,075	100	120	170	15
SJL55-P	5.5	1,150	1,305	1,757	1,900	250	180	100A	1,530	650	1,175	1,319	124	150	200	15
SJL75-P	7.5	1,400	1,453	1,870	2,100	300	220	125A	1,880	800	1,440	1,620	160	200	250	15
SJL110-P	11	1,640	1,759	2,200	2,300	350	260	150A	2,200	930	1,676	1,890	184	220	270	19
SJL150-P	15	1,900	1,864	2,305	2,500	350	260	150A	2,460	1,060	1,936	2,150	184	220	270	19
SJL220-P	22	2,300	2,194	2,635	2,700	450	400	200A	3,000	1,325	2,414	2,680	236	260	320	19
SJL300-P	30	2,600	2,389	2,830	2,900	550	500	250A	3,400	1,475	2,664	2,980	286	310	370	19

SJL-F

Free standing type

■Dimensions



●Dimension table (SJL-F Series)

Unit: mm

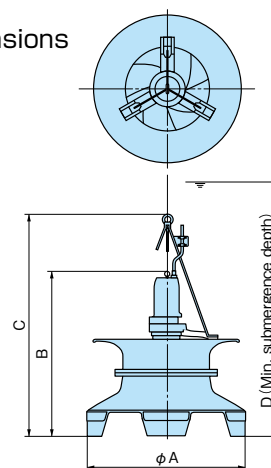
Model	Rated output (kW)	A	B	C	D	E	F	G	H
SJL22-F	2.2	740	888	983	1,383	1,500	600	65A	430
SJL37-F	3.7	900	1,043	1,055	1,414	1,700	650	80A	500
SJL55-F	5.5	1,150	1,330	1,305	1,757	1,900	900	100A	650
SJL75-F	7.5	1,400	1,565	1,453	1,870	2,100	1,000	125A	740
SJL110-F	11	1,640	1,830	1,759	2,200	2,300	1,150	150A	870
SJL150-F	15	1,900	2,080	1,864	2,305	2,500	1,250	150A	990
SJL220-F	22	2,300	2,515	2,194	2,635	2,700	1,350	200A	1,200
SJL300-F	30	2,600	2,900	2,389	2,830	2,900	1,600	250A	1,360

Note: The aerator must be fixed using guide pipes, anchor weight, anchor ropes etc., so that it does not move after installation even on an inclined or slippery surface.

SJL-K

Mixing type

■Dimensions



●Dimension table (SJL-K Series)

Unit: mm

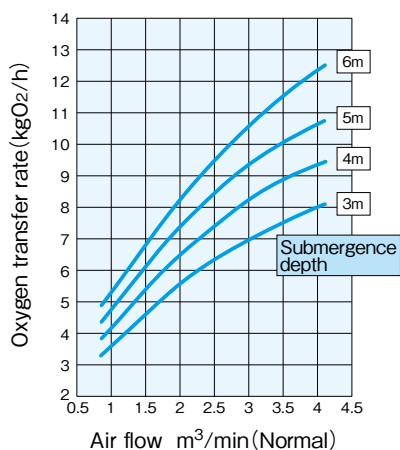
Model	Rated output (kW)	A	B	C	D
SJL22-K	2.2	740	983	1,383	1,500
SJL37-K	3.7	900	1,055	1,414	1,700
SJL55-K	5.5	1,150	1,305	1,757	1,900
SJL75-K	7.5	1,400	1,453	1,870	2,100
SJL110-K	11	1,640	1,759	2,200	2,300
SJL150-K	15	1,900	1,864	2,305	2,500
SJL220-K	22	2,300	2,194	2,635	2,700
SJL300-K	30	2,600	2,389	2,830	2,900

Note: The aerator must be fixed using guide pipes, anchor weight, anchor ropes etc., so that it does not move after installation even on an inclined or slippery surface.

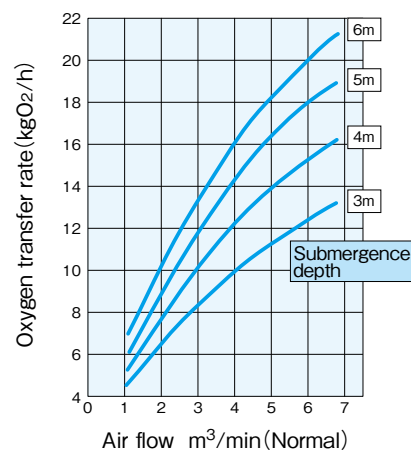
Performance Curves

(Condition: Clear water at 20°C with a dissolved oxygen concentration of 0 mg/L)

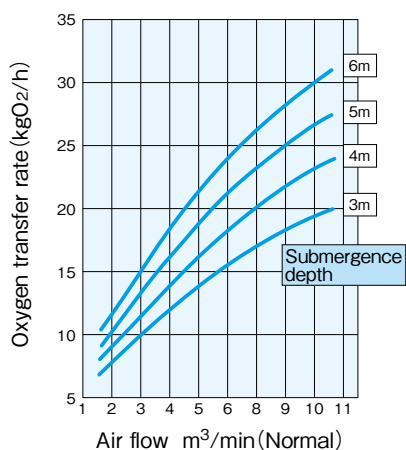
SJL22



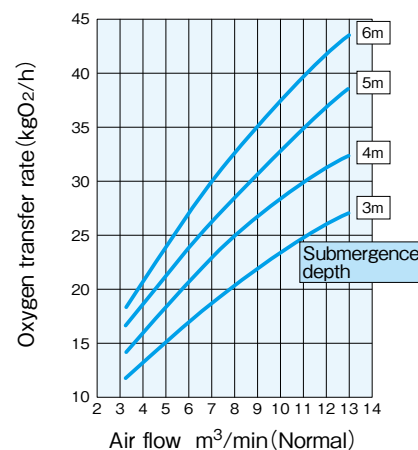
SJL37



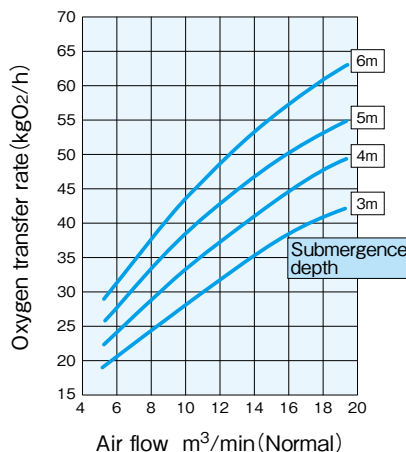
SJL55



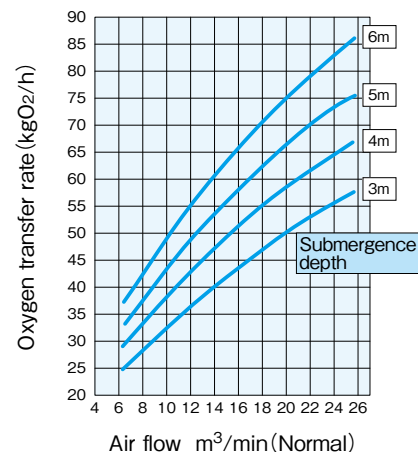
SJL75



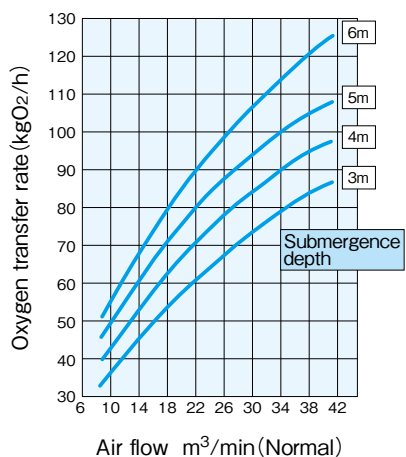
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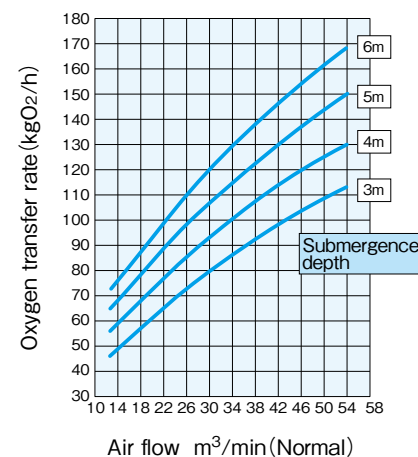
SJL150



SJL220



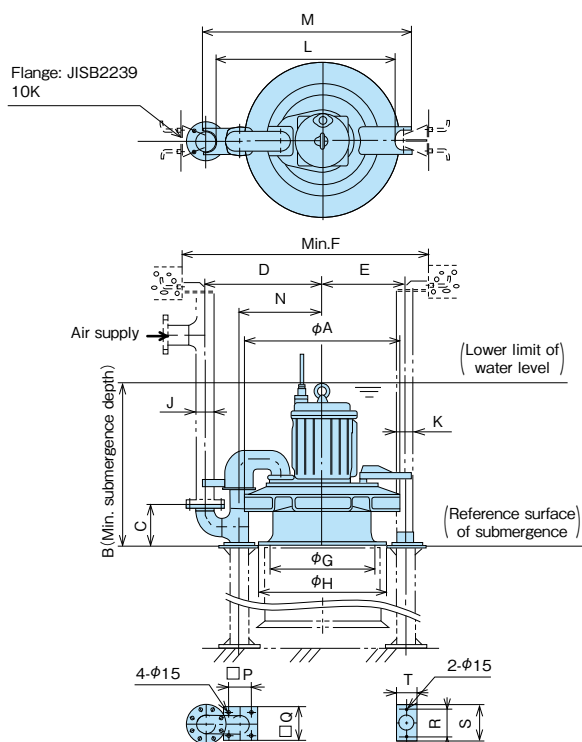
SJL300



SU-P

Guide rail installation type

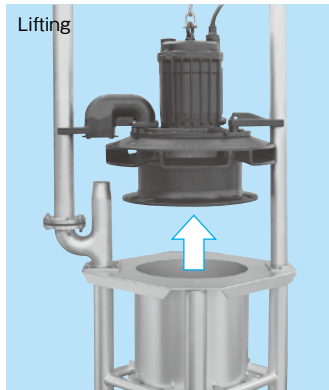
■Dimensions



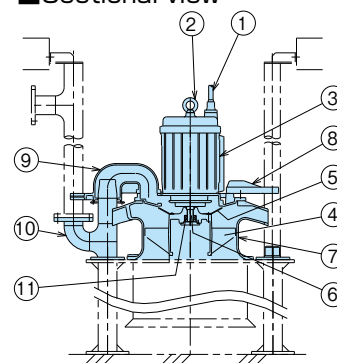
In position



Lifting



■Sectional view



●Material list

No.	Part name	Material
1	Cable	EPR insulated PCP sheathed cable with fabric reinforcement
2	Eyebolt	304 stainless steel
3	Motor	—
4	Impeller	304 stainless steel
5	Diffuser	304 stainless steel
6	shaft	329J1 stainless steel
7	Discharge housing	Gray iron casting (FC250)
8	Guide	Gray iron casting (FC200)
9	Air inlet pipe guide	Gray iron casting (FC250)
10	Air inlet stand	304 stainless steel
11	Locking element	—

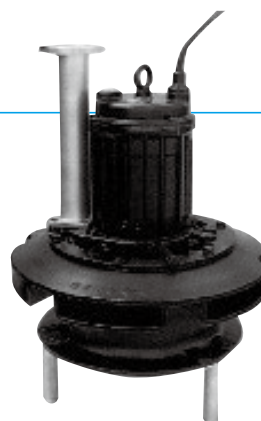
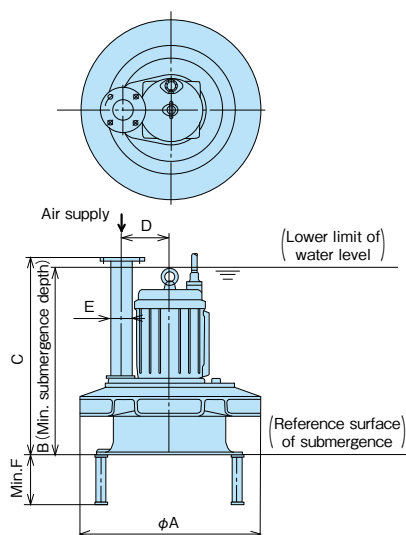
Unit: mm

Model	Rated output (kW)	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
SU15-P	1.5	600	665	200	495	350	1,050	420	506	65A	50A	768	905	355	100	125	120	170	80
SU22-P	2.2	670	684	200	495	350	1,050	480	560	65A	50A	768	905	355	100	125	120	170	80
SU37-P	3.7	740	770	200	555	390	1,150	520	600	80A	65A	852	990	393	120	150	130	180	100
SU55-P	5.5	890	798	250	685	480	1,400	616	716	100A	80A	1,049	1,206	479	150	200	140	190	120
SU75-P	7.5	890	886	300	740	535	1,550	616	716	125A	100A	1,129	1,300	489	200	230	170	220	140
SU110-P	11	1,150	1,168	350	920	610	1,900	854	960	150A	125A	1,359	1,560	625	200	250	200	250	180
SU150-P	15	1,400	1,386	350	1,025	720	2,200	1,004	1,110	150A	125A	1,574	1,775	730	200	250	200	250	180

SU-F

Free standing type

■Dimensions



Unit: mm

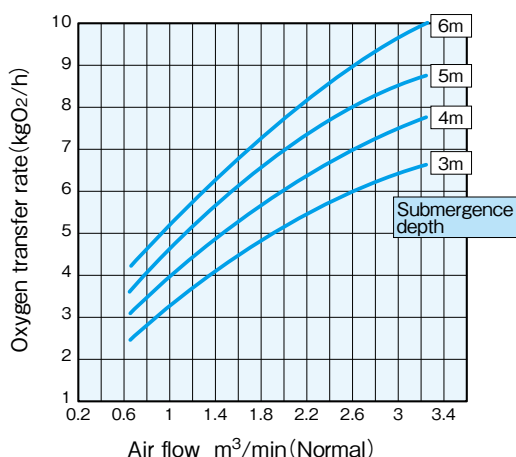
Model	Rated output (kW)	A	B	C	D	E	F
SU15-F	1.5	600	665	665	189	65A	200
SU22-F	2.2	670	684	665	189	65A	200
SU37-F	3.7	740	770	684	198	80A	200
SU55-F	5.5	890	798	845	232	100A	200
SU75-F	7.5	890	886	945	232	125A	250
SU110-F	11	1,150	1,168	1,136	277	150A	400
SU150-F	15	1,400	1,386	1,354	277	150A	400

Note: The aerator must be fixed using guide pipes, anchor weight, anchor ropes etc., so that it does not move after installation even on an inclined or slippery surface.

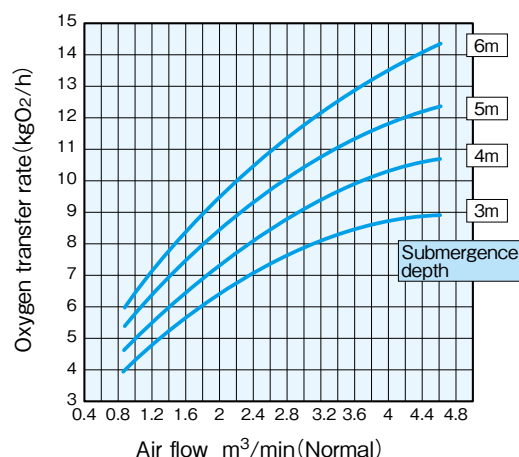
Performance Curves

(Condition: Clear water at 20°C with a dissolved oxygen concentration of 0 mg/L)

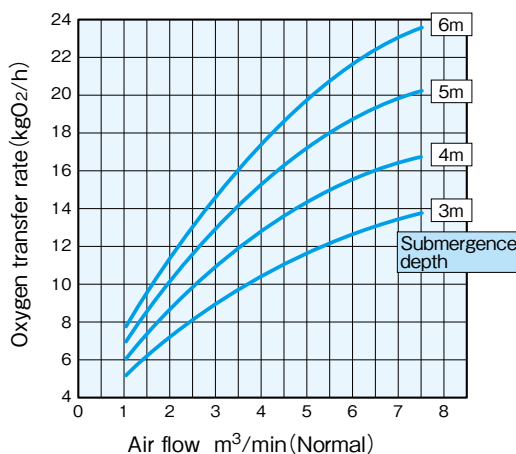
SU15



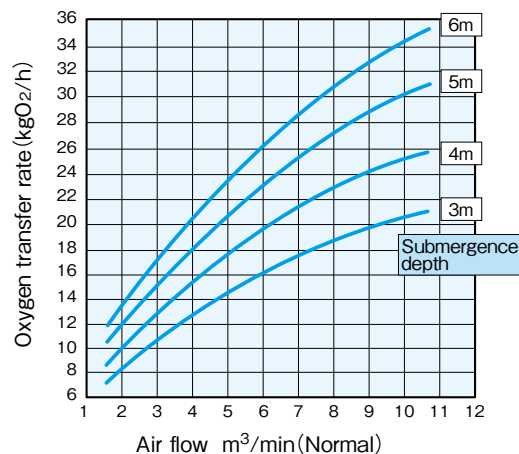
SU22



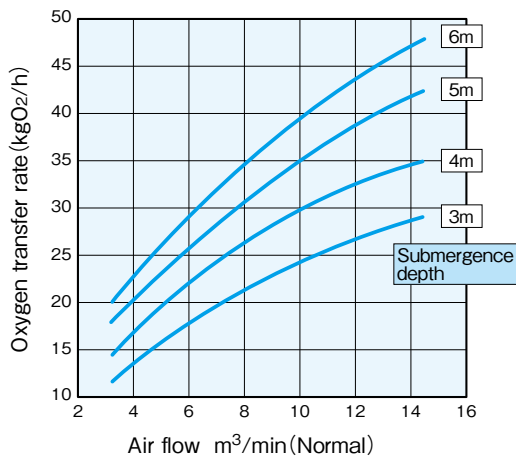
SU37



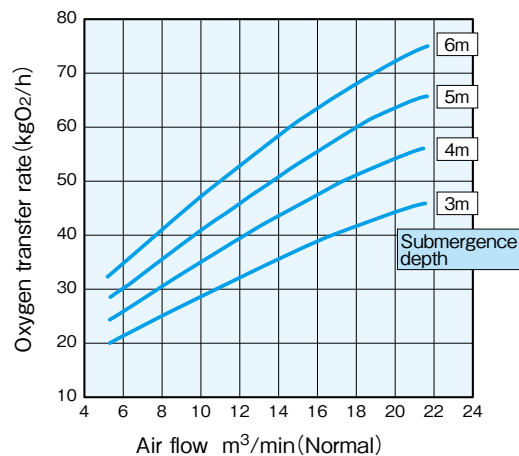
SU55



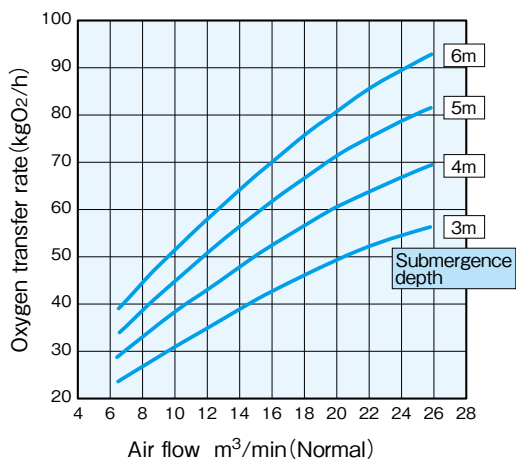
SU75



SU110



SU150



Submersible Aerator SJ Series



▲SJ8-P



▲SJ37-P



▲SJ75-P

Submersible Aerator SJL Series



▲SJL75-P



▲SJL300-P

Submersible Aerator SU Series



▲SU-P



▲SU-F



Specifications and dimensions are subject to change without notice.

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